

1   **WHAT IS CLAIMED IS:**

2           1. A locking device for a treadmill having a collapsible treadmill deck  
3   and a base assembly to lock the collapsible treadmill deck in a folded position  
4   relative to the base assembly and the locking device comprising:

5           a telescopic tube to support the collapsible treadmill deck in the folded  
6   position and comprising

7           an outside tube having an exterior periphery, a top end with an  
8   opening, a bottom end to be pivotally mounted to the base assembly and a pawl  
9   hole defined through the exterior periphery; and

10          an inside tube telescopically mounted in the outside tube and  
11   having an inside end telescopically mounted in the opening at the top end of the  
12   outside tube, an outside end to be pivotally mounted on the collapsible treadmill  
13   deck and at least one positioning hole aligned with the pawl hole; and

14          a latch interlocking the inside tube with the outside tube in position as  
15   the treadmill deck is folded up to the folded position and the latch comprising

16          a stationary bracket fastened on the exterior periphery of the  
17   outside tube and corresponded to the pawl hole; and

18          a pivot pawl pivotally mounted on the stationary bracket and  
19   having an inside end extended into the pawl hole to engage one of the at least one  
20   positioning hole to interlock the inside tube with the outside tube.

21          2. The locking device as claimed in claim 1, wherein the pivot pawl  
22   further has a through hole, a transverse groove and an inclined surface, and the  
23   transverse groove and the inclined surface are formed at the inside end of the  
24   pivot pawl;

1           the stationary bracket comprises a stationary base with a top and two  
2 sides, and a side wall formed upward at one of the sides, protruded from the top  
3 of the stationary base and having a top, two opposite sides and a transverse  
4 elongated hole defined through the sides of the side wall; and  
5           the latch further comprises  
6                   a movable pawl bracket movably mounted on the stationary  
7 bracket and comprising  
8                           a sliding base slidably mounted on the top of the  
9 stationary base of the stationary bracket and having a top and a side; and  
10                           a guiding side wall protruded vertically from the top at  
11 the side of the sliding base and having two sides and a pin hole defined through  
12 the sides of the guiding side wall and aligned with the transverse elongated hole  
13 in the stationary bracket;  
14                   a connecting pin connecting the movable bracket to the  
15 stationary bracket and comprising  
16                           a shank having a distal end, a proximal end and an  
17 annular groove formed at the proximal end, and the proximal end extended into  
18 the transverse elongated hole in the stationary bracket and the pin hole in the  
19 movable bracket, and extended out of the through hole of the pivot pawl; and  
20                           an enlarged head formed integrally at the distal end of  
21 the connecting pin;  
22                   a torsional spring mounted on the shank of the connecting pin  
23 between the pivot pawl and the guiding side wall of the movable bracket to  
24 provide a restitution force to pivot the pivot pawl; and

1                   a clamp attached to the annular groove of the shank to hold the  
2 pivot pawl with the connecting pin.

3           3. The locking device as claimed in claim 2, wherein

4           the stationary bracket further has a stationary spring holder protruded  
5 from one of the sides of the side wall;

6           the movable bracket further has a movable spring holder protruded from  
7 one of the sides of the guiding side wall; and

8           the latch further comprises a restitution spring attached to the stationary  
9 spring holder and the movable spring holder.

10          4. The locking device as claimed in claim 2, wherein the side wall of the  
11 stationary bracket further has a hook formed at the top and bent toward the  
12 stationary base at one of the sides of the side wall, and the guiding side wall is  
13 slidably held by the hook and further has an outside end and a grip formed at the  
14 outside end of the guiding side wall.

15          5. The locking device as claimed in claim 3, wherein the side wall of the  
16 stationary bracket further has a hook formed at the top and bent toward the  
17 stationary base at one of the sides of the side wall, and the guiding side wall is  
18 slidably held by the hook and further has an outside end and a grip formed at the  
19 outside end of the guiding side wall.

20          6. The locking device as claimed in claim 2, wherein the clamp is a C-  
21 clamp.

22          7. The locking device as claimed in claim 5, wherein the clamp is a C-  
23 clamp.

24          8. The locking device as claimed in claim 1, wherein the stationary

1 bracket comprises a stationary base and a side wall protruded from the stationary  
2 base; and

3 the latch further comprises

4 a connecting pin mounted on the side wall to pivotally hold the pivot  
5 pawl;

6 a torsional spring mounted on the connecting pin between the side wall  
7 and the pivot pawl; and

8 a pivotal handle attached to the pivot pawl to pivot the inside end of the  
9 pivot pawl out of the engaged one of the at least one positioning hole.

10 9. The locking device as claimed in claim 1, wherein the stationary  
11 bracket comprises a stationary base and a side wall protruded from the stationary  
12 base; and

13 the latch further comprises

14 a connecting pin mounted on the side wall to pivotally hold the pivot  
15 pawl;

16 a torsional spring mounted on the connecting pin between the side wall  
17 and the pivot pawl; and

18 a pulling cord attached to the pivot pawl to pivot the inside end of the  
19 pivot pawl out of the engaged one of the at least one positioning hole.